P. HESELTINE.

PEAT MACHINE.

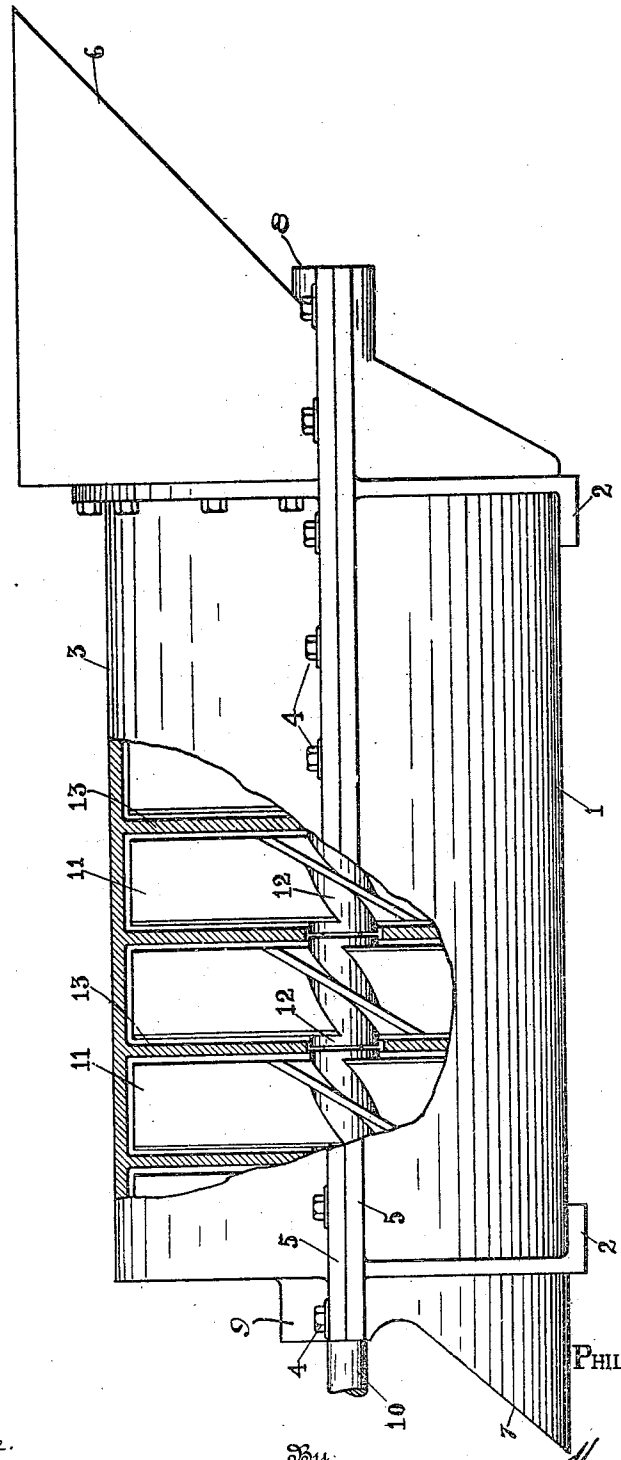
APPLICATION FILED SEPT. 1, 1909.

962,349.

Patented June 21, 1910.

2 SHEETS—SHEET 1.

Fig. 1



Witnesses

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2 SHEETS—SHEET 2.

Fig. 2

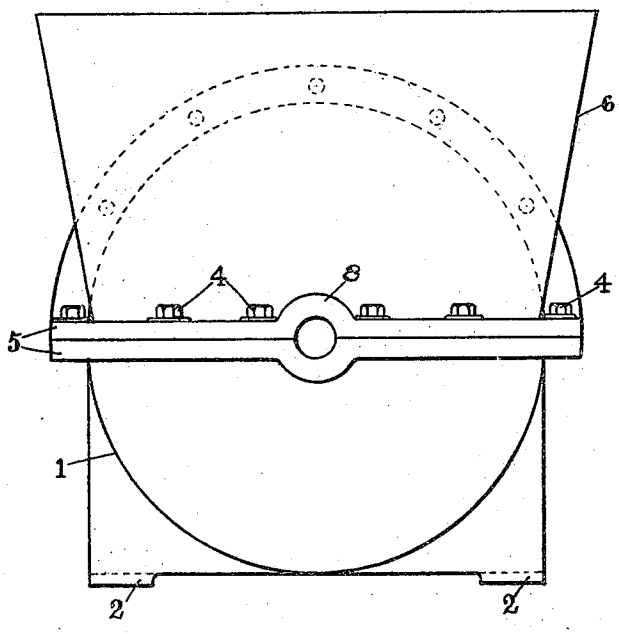


Fig. 3

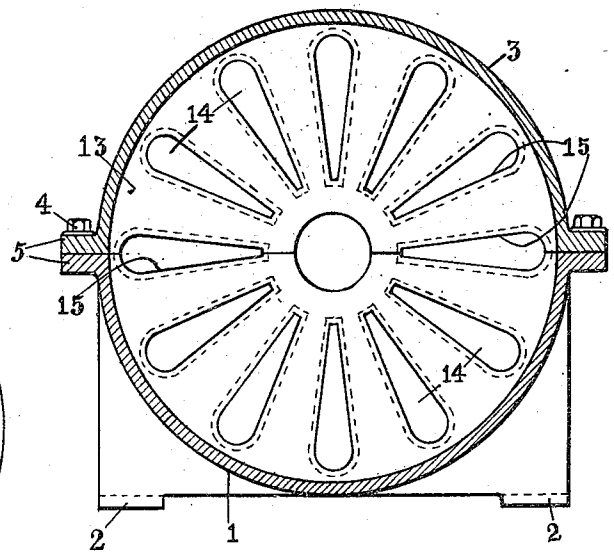
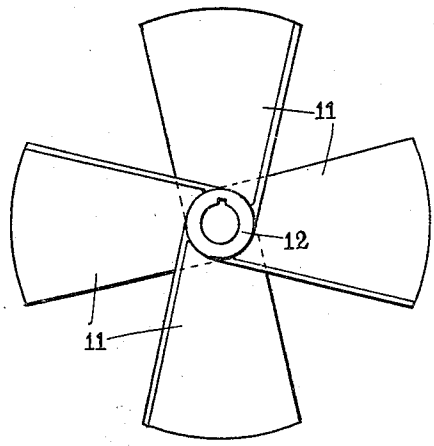


Fig. 4



Witnesses

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UNITED STATES PATENT OFFICE.

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PEAT-MACHINE.

962,349. Specification of Letters Patent. Patented June 21, 1910.

Application filed September 1, 1909. Serial No. 515,559.

To all whom it may concern:

Be it known that I, PHILIP HESELTINE, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Peat-Machines, of which the following is a specification.

In the process of preparing raw peat for fuel it is the usual custom to press the peat into briquets or the like. This is usually done by high power presses and other machinery more or less costly. When it is thus prepared the peat is found to contain a large percentage of air trapped in the cells of the peat tissues and likewise water, which cannot be forced from the interior of the peat fibers. This lessens the efficiency of the peat as a fuel and increases its bulk as well.

This invention relates to a machine for preparing peat for fuel in which the raw material is so treated that the cells are broken apart or open so that the water contained therein can be readily removed, without the process of subjecting the peat to high pressure, thus eliminating one of the most expensive steps now common in the production of peat fuel.

The invention consists in the matters hereinafter set forth and more particularly pointed out in the appended claims.

In the drawings, Figure 1 is a view in side elevation partially broken away of a machine embodying features of the invention; Fig. 2 is a view in end elevation thereof; Fig. 3 is a view in detail of a pallet plate; and Fig. 4 is a view in detail of a pallet blade.

Referring to the drawings a semi-cylindrical base 1 is mounted on suitable supports 2 and is covered by a semi-cylindrical shell 3 removably secured thereto by bolts 4 or like means passing through mating flanges 5 on the respective margins of the base and shell. An inlet hopper 6 is secured to or formed on one end of the machine and a discharge chute or mouth 7 that preferably corresponds in contour to the base 1 is attached or formed on the opposite end. Bearings 8 and 9 on the end walls of the base and shell support a rotatable main shaft 10. The shaft may be driven from any external source of power. A series of obliquely disposed pallet blades 11 are arranged in regular order on the shaft, their shanks 12 being keyed or otherwise non-rotatably secured thereon. The blades are arranged in sets each adapted to advance material entering the machine through the hopper against pallet plates 13 which are formed on or secured to the base and shell as cross walls or diaphragms. Each pallet plate has a plurality of regularly disposed openings 14 with margins 15 beveled away from the pallet blades. The latter do not contact with the pallet plates but are so disposed that they sweep material around the plates with a rubbing, grinding motion not unlike that of a pallet knife used in mixing paints, so that the material is rolled and broken open on the faces of the plates which exceed in area the openings. This grinding movement splits and tears open the fiber which is worked through from one set of blades to the next set, finally being ejected from the machine in such condition that any water or other fluid contained in the cells and interstices is free to evaporate when the material is spread out upon any drying surface.

In operating the machine the crude peat is passed into the machine in suspension in water and it is found that the discharged pulpy mass when spread out upon a drying surface mats down as it drys and forms a hard cake or body of greater density than can be obtained by the pressing process used in making briquets.

Obviously, details of construction may be changed without departing from the spirit of the invention and I do not limit myself to any particular form or arrangement of parts.

What I claim as my invention is:—

1. A crude peat crusher comprising a cylindrical casing with inlet at one end and outlet at the other, divided by apertured diaphragms at intervals throughout its length and rotatable obliquely disposed blades adapted to rub material introduced into the casing over the faces and through the apertures of the diaphragms successively, the area of the surface of each diaphragm exceeding the area of the apertures.

2. A crude peat crusher comprising a cylindrical casing with inlet at one end and outlet at the other, transverse apertured diaphragms disposed at intervals throughout its length, a shaft journaled in the casing concentrically therewith, and pallet blades on the shaft between each pair of plates with their blades oblique thereto and at an interval therefrom, the diaphragm forming pal-

let plates coacting with the blades upon material introduced into the casing.

3. A crude peat crusher comprising a semi-cylindrical concave base, a semi-cylindrical shell detachably secured thereon, both base and shell having apertured cross-diaphragms which together form pallet plates at intervals across the crusher, bearings in the end walls of the base and shell, a shaft journaled therein concentrically with the base and shell, an inlet hopper at one end of the base, an outlet chute at the other end, and pallet blades on the shaft whose oblique faces are adapted to force material toward the chute through the plate apertures, the plates being adapted to retard the material and the blades to rub it around the faces of the plates.

4. A crude peat crusher comprising a semi-cylindrical concave base, a semi-cylindrical shell detachably secured therein, both base and shell having apertured cross-diaphragms which together form pallet plates at intervals across the crusher, bearings in the end walls of the base and shell, a shaft journaled therein concentrically with the base and shell, an inlet hopper at one end of the base, an outlet chute at the other end, and pallet blades on the shaft whose oblique faces are adapted to force material toward the chute through the plate apertures, the plates being adapted to retard the material and the blades to rub it around the faces of the plates, and the apertures of the plates having margins beveled back from the coacting blades.

In testimony whereof I affix my signature, in presence of two witnesses.

PHILIP HESELTINE.

Witnesses:

DAVID L. MURCHEY,

ALBERT F. SELLERS.